

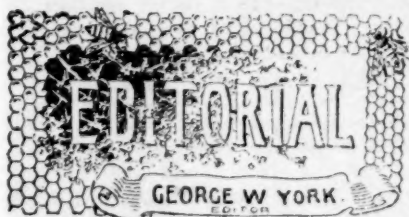
ESTABLISHED IN 1861

THE AMERICAN BEE JOURNAL

OLDEST BEE-PAPER IN AMERICA

Weekly, \$1 a Year. } DEVOTED EXCLUSIVELY— } Sample Copy Free.
 —TO BEE-CULTURE.

VOL. XXXIII. CHICAGO, ILL., JUNE 14, 1894 NO. 24.



The Fruit Exchange of California is explained somewhat on page 758 of this number. Read it.

Samples of Foundation have been received at this office from Mr. W. J. Finch, Jr., of Springfield, Ill. He claims to make it by an "Improved process," as will be seen by his advertisement on another page. The samples are nice.

Fjærkræ-og Bi-Avl is the name of a new monthly paper published at Cedar Rapids, Iowa, in the interest of Scandinavian poultry and bee culture of the United States. We have received a copy of it, but, like Dr. Miller, we are "not going to read it." John A. Jensen is its editor.

In Good Company.—The *Canadian Bee Journal* for June contains, on the same page, the portraits of Bro. E. R. Root (associate editor of *Gleanings*), and also the phiz of the editor of the *AMERICAN BEE JOURNAL*. We want to thank Bro. Holtermann for the honor conferred upon us, in placing us in such excellent company. Bro. Root and ourselves have no differences worth mentioning—we always agree almost to a dot.

Midwinter Fair Awards.—We learn that the awards in the apiarian department of the Midwinter Fair will be the same as are to be given for anything else exhibited. Four awards will be given, viz: Special Diploma of Honor, First Award, Second Award, and Third Award.

Next week we hope to give Mr. Pryal's final "special report" on the apiarian exhibit at the Midwinter Fair.

Mr. Wm. Couse, of Streetsville, Ont., is the new Secretary of the Ontario Bee-Keepers' Association, instead of Mr. F. A. Gemmill, as announced a few weeks ago in these columns. Mr. Gemmill, "for various reasons," could not accept the appointment, we learn from the *Canadian Bee Journal*. Mr. Couse has had much experience in the Secretary business, and no doubt will fill the position very acceptably.

California Honey in 1893.—Rambler says in *Gleanings* that the latest figures, compiled from railroad and steamship lines, puts the shipments of California honey in 1893 at about 7,000,000 pounds. Who said California wasn't the banner honey-producing State last year? Perhaps nearly all who saw her exhibit (?) of honey at the World's Fair!

Favorable Year.—Dr. Miller, in *Gleanings* for June 1st, says that, taken all together, he never knew a more favorable year up to the middle of May. Bees were booming, white clover luxuriant, and he could hardly see how we can fail of a crop unless we have one of those years when the blossoms yield no nectar.

Bee-Paralysis in California is getting to be something very serious. Prof. Cook, on May 29th, wrote us as follows from his home in Claremont, Calif.:

The bee-paralysis is doing terrible work about here. It is estimated that 5,000 colonies have died this spring. It is a serious epidemic. I think it is a sort of "la grippe." What else can it be? A. J. Cook.

Ah, indeed, "what (else) can it be?" That's the question—and a difficult one, too; and if not satisfactorily answered, and the devastation stopped, it is liable to rival foul brood in its awful ravages. We hope that Prof. Cook will at once thoroughly investigate the disease, as he now has such good opportunity, and also discover some successful method of treatment. Others who are in a position to do so, should also learn all they can about the trouble.

Here is a chance for some one to win fame, as Mr. McEvoy has done in so successfully eradicating foul brood. Who will it be?

In Re-Queening an apiary, select only queens that remain quiet on the combs. A queen that runs off the comb whenever a hive is opened, generally produces bees that are hard to handle and very cross.—*Progressive Bee-Keeper.*

"Emerson T. Abbott, successor to St. Joseph Apiary Co.," St. Joseph, Mo., is the way it reads now. Bro. Abbott is the President of the North American Bee-Keepers' Association, and also deals in bee-supplies, bees, queens, honey and beeswax.

Securing Patents.—Some of our readers (judging from a few letters that we have received) seem to have gotten it into their heads that we are opposed to getting anything patented, whether it be something useful to bee-keepers or otherwise. If such is the idea entertained by those readers of the BEE JOURNAL, we can say that nothing could be further from the truth.


We do believe in getting new and original ideas patented when put into anything that will be of use to mankind; and we also believe that every honest man will be perfectly willing to pay a little extra for the privilege of using such invention. We certainly would be *glad* to do so. Of course,

we don't think that a patent should cover the right to rob people, by charging extortionate prices, and yet, this being a free country, whenever any one feels that too large a price is asked for any new article, he need not buy it, but let it severely alone, for in so doing he will be just as well off as he was before he learned of the new, though expensive, thing.

How much better it would have been for Father Langstroth, could he have retained the patent on his hive, and thus assured to himself and his family a continuous income that would have kept them nicely during their lives. Surely, all bee-keepers who cared enough to use his valuable invention would gladly have paid something extra for that privilege.

We believe that good ideas, when put to some practical use, should be as willingly paid for as manual labor. Many an invention has cost its originator much hard labor besides actual financial outlay, and certainly it is no more than right that he should be reimbursed in some way, and what better way than by patenting his invention, and thus protecting himself and personally securing the benefits resulting from honest and worthy effort?

We have not written the foregoing for the purpose of starting a discussion on patents, for we believe that such discussion would be only a useless waste of valuable space in these columns. We simply wished to explain our position in the matter.

 "I do not want to miss a number of the BEE JOURNAL. It saved me money last year."—W. P. Gardner, of Iowa, on May 14, 1894.

The California Bee-Meeting.—Mr. W. A. Pryal wrote us as follows on May 28th, concerning the proposed meeting of California bee-keepers at the Midwinter Fair:

The closing day of the International Exposition that was inaugurated in San Francisco last January, is fast drawing nigh. In fact, at this writing hardly five more weeks of the big western show remain in which it will be open to visitors; after that time it will be a memory, like that of the magnificent Exposition that was held in Chicago last year.

The California bee-keepers were in hopes of holding a special convention of their State association at the Fair before it closes; their President, Prof. Cook, is so

engaged that he is unable to attend until about the very last day of the Fair. This caused the Secretary, Mr. Martin, to suggest that the meeting take place on July 2nd, if the Fair should be continued a few days after the time it was announced some time ago that it would close. This now seems to be impracticable, for the management of the Fair announce positively that it will close on June 30th. I feel confident that the meeting will be called for some day in the last week of June, and if the President of the association cannot be present at the convening of the meeting, then he will be in time to preside and get acquainted with the bee-keepers in the central and northern portion of the State before the convention adjourns. It will give all those who wish to see the Fair before it closes a chance to attend the convention, and at the same time take advantage of the reduced rates made by the railroad company during the continuance of the Fair—in other words, it will give them an opportunity to kill more than two birds with one stone.

The State Board of Horticulture has offered the use of its hall and other rooms in San Francisco to the bee-keepers free of charge, should the latter wish to hold its meeting in them. It is probable that the offer will be accepted, should it be determined to hold the meeting. The matter is in the hands of Secretary Rambler Martin, and if anything is to be done, it will soon be made known, as it is getting pretty late for calling a meeting that is to take place within a month from the date of the announcement.

W. A. PRYAL.

North Temescal, Calif.

Mr. J. D. Givens, of Lisbon, Tex., is a very happy bee-keeper. Cause—a new 10-pound boy that came to his house recently. We want to congratulate Bro. Givens on the prospect of having good help some day in his large queen-rearing business.

Nebraska Honey.—Bro. E. Whitcomb, of Friend, Nebr., believes in standing up for the honey of his own State, and did so quite emphatically in the following, which appeared in the May number of the *Poultry and Bee Journal*, published in Nebraska:

In 1892 about \$320,000 worth of honey was imported into Great Britain. Now the *British Bee Journal* is discussing the question of prohibiting the importation of honey into that country.

Here in Nebraska we are producing only about 1½ pounds of honey to each person within our State, and for many years yet have nothing to fear from British protection, while we are kept busy supplying the home demand, and in keeping our own people "sweet," and it matters little to us

whether our brothers and sisters across the "big pond" desire nice, sweet honey gathered from under the Italian skies of Nebraska, or content themselves with the insipid, fog-besodden honey of England.

The time is not far distant when Nebraska honey will find a ready sale in almost any market of the world, and at good prices. There is more room here in Nebraska for the apiarist than in most other places. We have only one need, and that is, to get to the front.

E. WHITCOMB.

Sweetened Poison will kill as quick as that which is bitter.—*Ram's Horn*.

Old Maids and Pollenization.

In the *Epworth Herald*, perhaps the best young people's weekly published in this country, we find the following which seems to fix the responsibility (!) of several things beyond all peradventure:

The Professor of natural science in a well-known university was discussing the process of fertilizing plants by means of insects carrying pollen from one plant to another, and to amuse them told how the old maids were the ultimate cause of it all. The humble-bees carry the pollen; the field-mice eat the humble-bees; therefore the more field-mice, the fewer humble-bees, and the less pollen and variation of plants. But cats devour field-mice, and old maids protect cats. Therefore, the more old maids the more cats, the fewer field mice, the more bees. Hence, old maids are the cause of it all.

Thereupon a sophomore with a single eye-glass, an English umbrella, a box-coat, with his "trousers" rolled up at the bottom, arose and asked:

"I sa-a-y, Professah, what is the cause—ah—of old maids, don't you know?"

"Perhaps Miss Jones can tell you," suggested the Professor.

"Dudes!" said Miss Jones sharply, and without a moment's hesitation.

There was silence in the room for the space of thirty seconds, after which the lecture was resumed.

"I have been very much pleased with the BEE JOURNAL, and thank you for your promptness in forwarding it."—Mary T. Williams, of Michigan, on May 14, 1894.

"Foul Brood; Its Natural History and Rational Treatment," is the title of an interesting booklet by Dr. Wm. R. Howard, of Texas. It also contains a review of the work of others on the same subject. It is being sold at the office of the BEE JOURNAL. Price, postpaid, 25 cents; or clubbed with the BEE JOURNAL for one year—both together for \$1.15. Orders received now.



No. 72.—Mr. Samuel Cornell.

As promised a few weeks ago, we this week are permitted to give something more about Mr. S. Cornell, the prominent Canadian bee-keeper who died so suddenly on April 7, 1894. He had reached the age of 58 years on the very day of his death. After dinner he went to the garden and apiary, and was found a few hours later with life extinct. Heart failure was supposed to be the cause. He left a wife and family to mourn his sudden departure.

The *Canadian Bee Journal* for May contained the following sketch in connection with the portrait herewith presented:

Mr. Cornell was born in the township of Ops, Ontario county, on April 7, 1836. His childhood and youth were spent on the farm. Having obtained a good education, he taught for some years at various places, and was afterwards local superintendent of schools for the county. For the last 25 years his residence has been in Lindsay, and he was chiefly engaged as an insurance agent. He was twice elected a member of the Board of Education in Lindsay, and assisted much in getting the old High School changed to its present rank of a Collegiate Institute.

Mr. Cornell was chiefly noted for taking some problem in bee-keeping, and with careful and painstaking effort seeking to bring upon it all the scientific light which could be found in various works, and which appeared to bear upon the question. Although bee-keepers did not always agree with the conclusions arrived at, there is no doubt Mr. Cornell's writings were interesting and of value, aside from what may have been correct, in that it tended to make Canadian—yes, American—bee-keepers pay greater attention to the scientific side of

bee-keeping. Practically, the bee-keepers of the American continent lead the world. From the scientific standpoint we have much to learn from such men as Cowan, Cheshire, Dzierzon and others—men who are original and careful students of scientific bee-keeping.

The sudden call of one so well known to the bee-keeping fraternity is not without its solemn lessons. Let each of us take the lesson home to ourselves.

In the *Bee-Keepers' Review* Mr. Allen Pringle—an intimate friend of Mr. Cornell—wrote thus concerning him:

"Steal thou away—give little warning.
Say not 'good night,'
But in some clime more bright,
Bid me 'good morning.'"

The bee-keepers of Canada, in the death of Samuel Cornell, of Lindsay, have lost one of their ablest and best men. Mr. Cornell died suddenly, and alone in his bee-yard on the afternoon of April 7th, presumably of heart failure. He had taken his dinner with his family in his usual health, and in good spirits, but it proved to be the last. But Mr. Cornell's health appears to have been failing him during the spring. The last letter I have from him bears date March 3, 1894, and in it he says:

"The Doctor advises me to do as little mental work as possible. I have had several slight attacks of vertigo within the past few weeks; but on this day two weeks, I was brought home, for the first time in my life, in a bus, as limp as a rag. The Doctor says it is caused by the failure of the stomach to do its work, which, in turn, is caused by nervousness, the result of mental overwork and worry. Hence his advice to ease off so as to allow the stomach and nervous system to regain their tone."

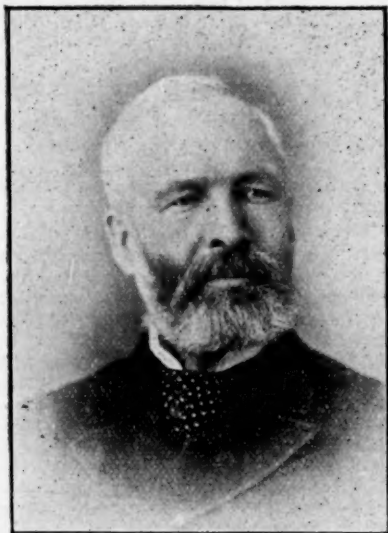
I make this extract from a private letter, knowing it will be read with interest, and, I trust, also with profit to the living—profit to those who need and can take an admonition of that kind, and I count myself among the number.

Personally, I had great respect for Mr. Cornell, and enjoyed his intellectual companionship whenever opportunity for personal intercourse or correspondence presented itself. Although on some subjects outside of apiculture we differed in opinion, and measured swords, Mr. Cornell was built on too broad a plan to allow that to interfere with the cordial relations of personal friendship.

Mr. Cornell was a fair scholar, an able and accurate writer on apicultural subjects in which it may be fairly said

he was a close observer and an original investigator. In those branches of science cognate to the science of apiculture he was well posted, and was seldom found nodding in his contributions to the bee-journals. Of course he was "set" in his views and opinions, but that may be tolerated in an intelligent and upright man. That he was enthusiastically absorbed in the science and art of apiculture goes without saying. And he "died in the harness" among his bees, with the hive he was manipulating still uncovered.

Mr. Cornell was the efficient Secretary



S. CORNELL.

of the Ontario Bee-Keepers' Association at the time of his death, and had been one of its directors for many years, and its President a few years ago. He was also one of the successful delegates of Ontario bee-keepers to the Indian and Colonial Exhibition in London in 1886. In 1890, I think, he met some of our American friends at the North American Bee-Keepers' Association meeting at Albany, N. Y.

Our Association will greatly miss Mr. Cornell; the bee-journals on both sides will miss him; and the fraternity in general will miss him, and deplore the fact that, in his own language from his diary, he "forgot the world and fell asleep."

ALLEN PRINGLE.

Upon hearing of Mr. Cornell's death, Prof. Cook wrote us this note:

I was very grieved to read of the death of Mr. Cornell. He was a very able and candid gentleman, and his death is a serious loss to all bee-keepers.

A. J. COOK.

Personally, we were not acquainted with Mr. Cornell, though of course we, like a host of bee-keepers, knew him through his interesting contributions to bee-literature, and shall miss his able pen productions.

CONVENTION DIRECTORY.

Time and place of meeting.

1894.

June 15, 16.—Eastern Kansas, at Bronson.
J. C. Balch, Sec., Bronson, Kans.

July 19.—Carolina, at Charlotte, N. C.
A. L. Beach, Sec., Steel Creek, N. C.

Aug. 16.—East Tennessee, at Whitesburg, Tenn.
H. F. Coleman, Sec., Sneedville, Tenn.

1895.

Feb. 8, 9.—Wisconsin, at Madison, Wis.
J. W. Vance, Cor. Sec., Madison, Wis.

In order to have this table complete, Secretaries are requested to forward full particulars of the time and the place of each future meeting.—THE EDITOR.

North American Bee-Keepers' Association

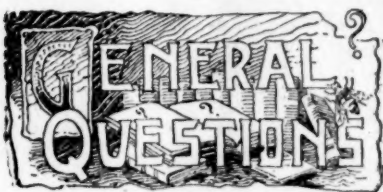
PRES.—Emerson T. Abbott....St. Joseph, Mo.
VICE-PRES.—O. L. Hershiser....Buffalo, N. Y.
SECRETARY—Frank Benton, Washington, D. C.
TREASURER—George W. York....Chicago, Ills.

National Bee-Keepers' Union.

PRESIDENT—Hon. R. L. Taylor..Lapeer, Mich.
GEN'L MANAGER—T. G. Newman, Chicago, Ill.
147 South Western Avenue.

Good Honey-Sellers will likely be needed soon, and the little 32-page pamphlet, "Honey as Food and Medicine," has for years proven itself valuable in making repeated sales of honey. Its distribution will create a demand for the honey first, and then the bee-keeper can follow it up and supply that demand. Send to us for a sample copy, only 5 cents; 10 copies, post-paid, 35 cents; 50 copies, \$1.25; or 100 copies \$2.00. Try 50 or 100 copies, and prove their ability to aid you in disposing of your honey at a good price.

Read our great offers on page 707.



ANSWERED BY

DR. C. C. MILLER,
MARENGO, ILL.

In this department will be answered those questions needing IMMEDIATE attention, and such as are not of sufficient special interest to require replies from the 20 or more apiarists who help to make "Queries and Replies" so interesting on another page. In the main, it will contain questions and answers upon matters that particularly interest beginners.—ED.

Clipping the Queen's Wing.

I noticed in the BEE JOURNAL that a writer said he clipped the queen's wing to keep her from leaving. Another said the queen mated in the open air. If so, how does she mate when clipped?

O. C. A.

ANSWER.—If you clip a queen before mating, you will have a drone-layer. I never clip a queen till after she commences laying.

Starved Brood, Gathering Honey, Etc.

1. How can a beginner know when the brood is starved?

2. How can he know when the brood is chilled?

3. How can one know when there is plenty of honey coming in to supply the brood?

4. How much honey should there be in the hive to be on the safe side, in April and May?

5. Will there be starving brood even if there is a comb of old honey in an outside frame in the hive?

6. What are bees gathering around pig pens and such places?

7. Will a foul-broody colony cast any swarm, or will they dwindle any in one season?

I ask these questions for the reason that I found dead brood in the cells on May 28th, when I last examined the bees. I have 16 colonies, and none seem to be any better. Some of them commenced to store in the upper stories from dandelions. The brood dying is advanced so far that they seem to fill the cell, but the head seems to dry up in

a point, and seems to be the worst in the center frames, most of them uncapped. I would not think that is foul brood, but I don't know. S. O. L.

Stanchfield, Minn.

ANSWERS.—1. You will find the bees carrying out brood more or less torn to pieces, as the younger brood has all the juices sucked out of it.

2. It will be in the outer portions of the brood-nest, and you will be likely to see some of the young bees that have been fully matured, with their heads sticking out of the cells, dead.

3. I don't know any way by which you can tell just how much honey is coming in, even if you could tell just how much the brood would use. But you can easily look in the hive and find out something about the amount of honey there. If you see plenty of sealed cells of honey along the upper parts of the combs, you needn't take the trouble to lift out any frames, but if no sealed honey is to be seen, lift out some of the frames and see what they have.

4. The safe thing is to have about three times as much as you think they will need. Every spring I am surprised to find colonies running out of stores that I thought had plenty to last till the main harvest. It isn't an easy thing to say just how much they should have. Some colonies will use twice as much as others. Some seasons will require twice as much as others. But to give some kind of an answer to your question, I should feel better to know that every colony had 10 or 15 pounds to go through April and May.

5. As a rule, no. If the weather should be so cold that bees could not leave the brood-nest, both bees and brood might starve, although you should put a comb of honey at the outer part of the brood-nest. But there is very little danger if such honey is there straight along, for every time there is a warm spell the bees will bring a supply in easy reach.

6. Likely they are after salty matters. Some furnish salt water to their bees, and it may do good. Indeed, some think it a preventive of disease. At any rate it can do no harm.

7. I suppose that depends much upon the violence of the case. If very bad, I should expect no swarm, neither should I expect them to flourish the next season.

There is nothing in the symptoms you mention but may come from chilled, or more likely, starved bees. By this time,

if clover is yielding, you will probably find them all right. If the brood continues dying while they are storing honey, then the case is serious.

Bee-Paralysis Again.

An experienced apiarist has called my attention to a colony of bees (one amongst several which I have taken under my charge), pointing out to me many diseased bees in the colony, which he informs me is called the "unknown bee-disease."

My attention was attracted to several of these bees upon the alighting-board of the hive. They are black in color, and shining, wings apparently undeveloped, they being unable to fly, seem gorged with honey, and are constantly offering their proboscides to the healthy bees for sustenance.

The apiarist, Mr. Thompson, recommended killing the queen, and introducing another, as the best method to prevent the disease from spreading through the apiary—which advice was acted upon. A new queen was introduced on April 30th; on May 3rd the colony cast a large swarm, leaving a big population behind. This colony was, before swarming, by far the strongest in the apiary. Can you further enlighten me upon this subject? R. P.

Biltmore, N. C., May 4.

ANSWER.—Bee-paralysis has been giving more or less trouble for years. For some time it was called "the nameless disease." In the North it does not amount to much. I have had occasional cases for years, and although I paid no attention to it I think it is not on the increase. In the South, however, there have been reports of heavy losses from it.

The cure that you have used—changing the queen—has been reported successful, also feeding salt, but some who have suffered severely from the disease report that no good comes from such remedies.

Weak Colonies—Introducing Queens.

Mr. Doolittle, in his article on "Management of Weak Colonies," says, after removing the frame with the queen on, if from colony No. 1, spread the frames of No. 2 and insert the frames of No. 1 alternately.

1. Is there any danger that the workers of No. 1 will destroy the queen of No. 2?

2. Do the workers destroy a strange queen by stinging her, or always by "balling" her?

3. What would you do with a colony of bees that have no queen, and have twice rejected an introduced queen, have laying workers, and when eggs and brood are given them, refuse to build queen-cells and simply rear workers of them?

As you see, I have lost two queens by trying to provide for them and they persistently refuse to rear a queen. I have no queen-cells in other colonies, or I would give them a queen-cell or a young virgin. The only thing they are willing to do is to rear small drones, and that they do to perfection. J. E. A.

Englewood, Ill.

ANSWERS.—1. If you had cited the page, I could understand the case more fully, but I may say in general that there is little danger of a queen being hurt by introducing a frame of brood and bees from another colony so long as the bees in the colony outnumber the strangers introduced. At any rate, you may feel quite safe to follow instructions given by Mr. Doolittle, for he always seems to have in mind all the possibilities of danger. I don't know of a more careful writer in our ranks, nor one more reliable.

2. I've known the bees to sting the queen promptly in some cases, but I am rather inclined to the opinion that if left entirely to themselves they ball her to death. Try to pull the bees forcibly away from the queen, or blow *hot* smoke upon the ball, and they are likely to sting her. Blow smoke on them from a distance so that it is cool, or throw the ball of bees in water, and they will let the queen go without hurting her. In the case that I think you have in mind, I think you would find the queen balled with no *immediate* danger.

3. I would without hesitation break up the whole business, distribute the combs and bees wherever they would do the most good, and if necessary make a colony later to take their place. You may succeed in getting them to accept a queen and make a good colony of them, but it doesn't pay for the trouble. You will have more bees in the long run to break them up and start another colony.

A Binder for holding a year's numbers of the BEE JOURNAL we mail for only 50 cents; or clubbed with the JOURNAL for \$1.40.



CONDUCTED BY
MRS. JENNIE ATCHLEY,
 BEEVILLE, TEXAS.

Dr. Howard's Foul Brood Bood.

Dr. Howard's treatise on foul brood ought to be in the hands of all bee-keepers. It is practical and to the point, and is well worth three times what is asked for it—25 cents.

JENNIE ATCHLEY.

The Texas State Convention.

(Continued from page 686.)

SECOND DAY.

The convention met in the grove among the bees where it was held last year. Several new additions were made to the numbers already present, by the arrival of members living in the country.

The convention was opened by prayer by the President, Rev. Dr. Marshall, who afterward announced that the election of officers for the ensuing year was the first thing in order, which resulted as follows:

President, Dr. W. K. Marshall; Vice-President, W. R. Graham; Secretary, Dr. Wm. R. Howard; and Treasurer, A. M. Tuttle.

The newly elected officers were called on for a speech. The President thanked the association for the honors conferred upon him by his re-election to the office of President of an association which had never failed since its organization to hold its annual conventions. He eulogized the late and lamented Judge W. H. Andrews, of McKinney, who, in his time, was the chief support of the association, who never failed to make the meetings interesting and profitable; he was the most progressive bee-keeper in the South and West, and that all who knew him were impressed with his earnestness, his honesty, and his ability. Since his untimely death, Bro. Graham, one of the oldest and best bee-keepers in the State, kept the association alive by

his untiring zeal, unwavering energy, and his kind hospitality; that the association to-day owed to Bro. Graham its flourishing condition.

The Vice-President, W. R. Graham, was called on for a speech. He thanked the President for his kind words; he felt more encouraged for the future success of the association, and thanked the members for the interest they had taken in attending the convention. He had enjoyed the interesting discussions, in which so many had taken part, and above all the honor conferred upon appointing him a delegate to the National convention held at Chicago during the World's Fair last year. The grand exhibits of beautiful honey in all the attractive shapes that the mind of men could invent, the beautiful display of honey from all parts of the world.

He had not words to picture the extensive arrangements. The exhibit of aparian supplies, the ingenuity displayed in its arrangement, was beyond description. But what was most pleasing to him, of all, was to meet and look in the faces of such men as Prof. A. J. Cook, A. I. Root, C. P. Dadant, Charles F. Muth, Thomas G. Newman, Geo. W. York, and others, whose writings in the bee-papers had made their names household words around the hearthstones of every bee-keeper in the land; to meet these men and converse with them, face to face, was an experience to be enjoyed but once in a lifetime; he was unable to express his feelings.

One must see this great Exposition to appreciate it. When the delegates by States were called, every eye was upon him when he arose to represent the great State of Texas.

When the Secretary was called on for a speech, Dr. Howard arose and said, while he could not make a speech, he could thank the association for the honor conferred upon him by electing him as their Secretary. While he had served as Secretary of nearly every organization of which he had been a member, he had the honor of being the first Secretary the Texas State Bee-Keepers' Association ever had. While his professional duties claimed most of his time, he would try to do his duty to the best of his ability. He had been thinking, while listening to the interesting remarks of the President and Vice-President, what might be done to further the interests of the society. He suggested that a certificate of membership might be printed in elegant form and framed so that every member, when he looked upon it, would recall the happy remem-

branches of our coming together, and thus inspire him with a new zeal for the welfare of the association.

Every one expressed a desire to possess such a memento, and Dr. Marshall expressed a wish that he might have had one with the signature of our first President, Judge Andrews, upon it.

The question of the expense was discussed, that the funds might be raised at once. The Secretary did not know exactly, but it would be only a trifle, and if they elected to have it, he would attend to that by collecting from each one the amount which would not exceed 25 cents.

The question was asked, what the membership fee was, as several wished to join the association. The Secretary replied, that at the time of organization the sum of 25 cents was charged, but of late it had been changed—so now to become a member he must attend the convention, take a part in it, and receive the hospitality of Bro. Graham, and remember the password—"No Hotel Bills."

The Secretary was appointed to provide the membership certificates.

The Treasurer, Mr. A. M. Tuttle, in response to a call for a speech, thanked the association for the honor, and that judging from the remarks of the Secretary, his duties, as well as his funds, would be light.

W. R. Graham, N. R. Parchman, and J. H. Roderick, were appointed delegates to the National convention to be held at St. Joseph, Mo., (time not set). G. A. Wilson, F. J. R. Davenport, A. M. Tuttle, and F. S. Brantigan were appointed alternates. Any other members who might wish to go, could, by corresponding with the Secretary, receive the necessary certificate of appointment as delegates.

W. R. Graham brought up the subject of a honey exhibit at the State Fair at Dallas. He had made a proposition to the directory, that if they would prepare the room for the exhibit, pay the transportation of the exhibit to the Fair and return to the owner, and pay the expenses of a man, whom our association might select, that we would make the grandest exhibit ever made by our State. While he had received some encouragement toward it, yet he had nothing definite, but felt sure that if a committee were appointed from our association to confer with the directory, that our object might be gained. He said we were asleep to our interests in this industry; we could open the eyes of the people of Texas, and those visiting the State Fair; we could make such an exhibit as would

do credit to our State, be a happy surprise to all, and be a source of revenue to the Fair, as well as to each one who sent an exhibit. It was his desire that each one present, in fact every beekeeper in Texas, should take a part, and send something to the exhibit. Make up your minds now, and work to that end, so that when the time comes you will have something to contribute.

He mentioned the many methods of securing fancy honey, fancy shapes, fancy designs, and fancy packages of both comb and extracted honey. To make it more interesting, bees in hives, queens and bees in observatory hives, bee-fixtures, supplies, and in fact everything pertaining to the apiary should be on exhibition; such an exhibit would increase the number of honey-producers an hundred fold, increase the demand for the pure product of the apiary, and satisfy the uninitiated that as a honey-producing State Texas is the equal of any in the world. It would be the greatest advertisement our State could receive, as the visitors from abroad would go home convinced of the excellence of our honey resources.

Dr. W. K. Marshall, the President, encouraged every member present to make an effort to have something to contribute, and each one to see his neighbor bee-keepers, and interest them in the work. Let every one be workers, and an exhibit would be displayed that would be a surprise to themselves. He appointed W. R. Graham and Dr. Wm. R. Howard a committee to confer with the directory of the State Fair in securing the exhibit, and superintending its arrangement.

The advantages of an apicultural department in connection with the agricultural and mechanical college at Bryan, was warmly discussed, and N. R. Parchman, W. H. White, and J. H. Roderick were appointed a committee to confer with the Board of Regents to that end. By motion the President was made chairman of the committee.

W. R. Graham read a letter from the superintendent of Buckner's Orphans' Home, in the interest of establishing an apiary at the Home, stating that they had a competent man to superintend it. After much discussion, in which a general willingness was expressed to assist in the matter, if it could be ascertained that a thoroughly competent man was on the ground to manage it, no specific action was taken.

A rising vote of thanks was tendered to W. R. Graham and family for the kind and hospitable manner in which he

had so graciously entertained the convention, which called forth a number of special speeches from those who felt that enough could not be said to express their appreciation of the kindness shown them by their host and his estimable family.

The place for the next meeting was selected. The generous Bro. Graham offered his hospitality, and invited the convention to meet at his place, saying that his latch-string was always on the outside to his brother bee-keepers.

Dr. Howard said he had no latch-string, that his doors were always open to bee-keepers, but that Bro. Graham's place was the most suitable—in fact, no other place could be found which would appear more like home to him. He moved that the Texas State Bee-Keepers' Association accept the invitation of Bro. Graham to hold its 17th annual convention at his place. Carried.

The convention was closed by prayer by the President, who returned thanks to the Giver of all Good for the season of joy we had experienced in our coming together; he invoked the Divine blessings upon the household of our host; he asked God to bless our efforts in the prosecution of our labors in our chosen pursuit; to preserve our health, to bring happiness and contentment to our minds, and at last to save us at home in that house not made with hands, eternal in the heavens.

The convention then adjourned, *sine die*. Wm. R. HOWARD, Sec. *pro tem*.

Queens and Queen-Rearing.—

If you want to know how to have queens fertilized in upper stories while the old queen is still laying below; how you may safely introduce any queen, at any time of the year when bees can fly; all about the different races of bees; all about shipping queens, queen-cages, candy for queen-cages, etc.; all about forming nuclei, multiplying or uniting bees, or weak colonies, etc.; or, in fact, everything about the queen-business which you may want to know—send for Doolittle's "Scientific Queen-Rearing"—a book of over 170 pages, which is as interesting as a story. Here are some good offerings of this excellent book:

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Cutting Out Cells and Swarming.

Query 927.—1. Suppose I cut out queen-cells from a hive 8 days after such hive has cast a swarm; but, in so doing, I discover that two or more queens have already hatched out, will such hive send out another swarm after all the cells are removed?

2. If so, how soon will such swarms be likely to issue?—Illinois.

1. Not likely.—DADANT & SON.

1. It will not.—MRS. L. HARRISON.

1. Not as a rule. 2. Within 48 hours.—G. M. DOOLITTLE.

1. I think not as a rule, during that season.—EUGENE SECOR.

1. Yes, it may, but not often. 2. The same, or the next day.—J. A. GREEN.

If queen-cells are hatched, they will very soon, or not at all.—E. FRANCE.

1. It will be very likely to do so. 2. As soon as the weather permits.—A. J. COOK.

1. They frequently will. 2. I have had them to issue the same day the cells were removed.—J. P. H. BROWN.

1. In many cases, yes. 2. You can look for them at any time after the queens leave the cells.—H. D. CUTTING.

1. It may, and it may not. I don't know of any rule that determines the matter. 2. Probably in two or three days.—J. E. POND.

1. I don't know, but I think generally not. 2. If they issue at all, I should expect them within a day or so of hatching out.—C. C. MILLER.

1. They are liable to. 2. If the weather is good, about four or five days after the young queens have hatched.—MRS. J. N. HEATER.

1. A swarm might issue under such circumstances in exceptional cases, but it would be in exceptional cases only. 2. Very soon, if at all.—R. L. TAYLOR.

1. I never noticed this. But I believe they will swarm, if their fever is high. 2. They will swarm in 24 hours, or not at all. A second thought occurs to me, that when two or more virgins issue with a swarm, they come from their cells

while the swarm is issuing, being afraid to come out when there are queens already hatched. I think if a colony should swarm as above, all queens would go, leaving the old hive queenless.—**MRS. JENNIE ATCHLEY.**

Not generally, if no queen-cells are overlooked. One queen will usually be killed, but still they may swarm again should the bees retain both queens.—**C. H. DIBBERN.**

1 and 2. I do not know. I never spend any time cutting out queen-cells, but hive all swarms on the old stand, and never have any second swarms.—**EMERSON T. ABBOTT.**

1. There would be no certainty of their swarming after the cells were removed. 2. If they swarmed at all they would likely do so within a day or two.—**S. I. FREEBORN.**

1. They will not swarm unless they do so the same day cells are cut out. If they delay until the next day, they generally learn the condition of affairs, and stay at home.—**J. H. LARRABEE.**

As a rule, no further swarms will issue. I would keep an eye upon such a colony, however; there may be no queen at all. In such event, permit them to rear one queen-cell, or introduce a "better" queen.—**W. M. BARNUM.**

1. Cutting out the cells will not prevent the issuing of a swarm if two or more queens have hatched; but the fact that two or more have hatched is not a certain indication that another swarm will issue. 2. In one or two days, if at all.—**M. MAHIN.**

1. If there are more queens than one remaining, the probabilities are they will cast another swarm. It depends upon the honey-flow, whether or not they swarm later in the season. 2. I would expect them any day, though I have not made such a trial.—**JAS. A. STONE.**

1 and 2. Yes, when the swarming fever is on, there is likely to be a swarm if more than one young queen is present in the hive. The young queen generally goes out on the second day after she is hatched from the cell, if the weather does not prevent or delay the swarm.—**G. W. DEMAREE.**

No; I have often cut out cells in just this state of things, and no swarm ever issued after all the unhatched queen-cells were removed. The queens sometimes fight it out, but most frequently the bees select the queen they want, and begin to abuse the others by biting and pulling at them until they are run out of the hive.—**G. L. TINKER.**



Sweet Clover as Bee-Pasturage.

Written for the American Bee Journal
BY JOHN M'ARTHUR.

In perusing the columns of the *AMERICAN BEE JOURNAL*, my attention has been drawn to several articles on sweet clover as a honey-bearing plant—some denouncing it as being no good, others declaring the honey produced from that source as being dark, etc., while one or two have spoken in its favor. The writer now craves the liberty of saying a few words about his experience and observation on this wonderful honey-bearing plant.

It is just 13 years this spring that I purchased one peck of the seed of white Bokhara, or sweet clover, and seeded down three acres for bee-pasturage. Being a biennial, it was the second season before I saw the bees work upon it. To see the way the bees swarmed upon it was convincing proof that it was a honey-plant of no mean order. There were 200 colonies within a few rods of it. I cannot say there was any increase observable from it, however it was cut, and threshed by the flail, hulled by the clover machine, and produced 20 bushels of fine seed. Reserving a few bushels, the balance was sold and went to Germany, there being no demand at that time for it in the home market.

I have kept on sowing it every season along with other plants, such as fuller's teasel, motherwort, catnip, hoarhound, and yellow sweet clover. This variety is less obnoxious than the white—it is more dwarf in growth, and blossoms earlier, coming in bloom at the same time as our common white clover, while the white variety blooms after our common clover, and just fills the tanks with honey when basswood is a failure, and yields abundantly every year; the reason for that being the excessive tap-roots that penetrate the subsoils, and thereby obtain moisture. I believe it to

be one of the best plants that can be sown to renew old and worn-out lands. No subsoil plowing need be done where it is grown. It frees and makes the subsoil porous and tender, growing to the height of $11\frac{1}{2}$ feet in some places, like a little forest. Such an amount of woody fiber must contain a large quantity of potash, and in dry, arid districts will be found an excellent fodder for cattle.

In this neighborhood it was sometime before the cattle took to eating it, but now they browse it down, and are doing all the seeding for me except in inaccessible places. It can be seen everywhere growing out of their droppings, there being several hundred acres within two miles of my bee-yards.

Basswood being a failure for several years, I look no more to that source, having something better—the sweet clover yielding a large surplus every year of bright honey, equal to clover or basswood in color, and an excellent flavor. The moment you open the honey-room door, the aroma permeates the whole place. The milkmen say their customers complain about their milk tasting of herbs. Having tasted the milk, I can easily distinguish the aroma; it is not disagreeable, but otherwise.

Horses eat sweet clover greedily when cut and cured as hay. It requires to be cut early, before it blooms or becomes woody. I have seen a horse leave its oats and take to eating sweet clover hay.

Too much cannot be said in its favor as a honey-plant. You will not see any benefit from it until you have quite an acreage growing. A few acres will amount to nothing. If you want to grow it, don't be afraid of a little exercise or seed. It would startle you, were I to tell the amount of seed I have used in accomplishing this work.

In 1890 I was short of seed, and a lot of barren land presented itself—an old brick field of some thirty acres. The temptation was too much for me, to see so much waste land at my door. Any one seeing it would have said that nothing would grow thereon. Fellow bee-keepers, it would do you good to see that field in the months of July and August! It cost me \$21 for seed, and is not 40 rods from my home yard.

My advice is, be careful not to sow it where it will become a nuisance, and have it end in a lawsuit. The writer was once caught on forbidden ground, and made sure the law was after him. So he at once sent a 10-pound package of nice extracted honey in way of compensation. It had the desired effect.

There are 300 acres of a sand-bar on Toronto Island yet before me to seed. When this is accomplished, my work will be done. I will leave it then in Nature's hand, and have no fear as to results.

Let me here say it is my opinion that before long sweet clover will become one of our fodder-plants, as it can be cut several times in a season. It certainly makes good pasturage. In excessively dry seasons it is the only thing that can be seen green in the fields, and this is the time cattle take to eating it. Milkmen drive their cows among it; they browse it down, and thus gives a lengthened flow of honey, lasting through August. Bees will work on it until cut down by frost. By cutting the tops off after the first blossoms are about past, will give you a second equal to the first.

The land in this immediate vicinity being rough and hilly, unfit for cultivation, the river bottoms being covered with water every spring, melting snow brings down seed, and sediment from the hills is deposited on the flats, securing a crop of sweet clover every year, and at high water cast the seeds thereon, carrying out the old scriptural plan of "casting our bread upon the waters," thus saving much time.

I have heard some grumble at the foothold sweet clover has got in this locality. After all, I think the work a laudable one, and many are the hearts that have been cheered in taking a drive or walk along the many ravines and hills of our northern suburb, inhaling the beautiful aroma that is wafted on the breeze.

A writer, in describing the picturesque scenery of Toronto, mentions the northern suburb as being redolent with the perfume of sweet clover, little knowing the labor and cost it took to produce it. For several years I enjoyed the field to myself, but now I am surrounded with 13 bee-keepers who are quietly enjoying the fruits of my labors; some of these being men of fortune, and have no need to keep bees from a pecuniary point of view. Such flood the market with their honey—what they cannot sell or barter they give away.

I will give an editorial extract from the *Canadian Bee Journal* of Oct. 15, 1891, page 675, and I have done:

"Why is it our friends do not raise more of this sweet clover? We have urged, time and again, and it seems strange they neglect their interests. Mr. John McArthur, of Toronto, is getting large crops from that source every year. He has divided his apiary into three,

and has from 10 to 25 acres within range of each yard, right in the city of Toronto; and a gentleman that visited him lately was surprised to see Mr. McArthur's bees storing honey from this source, when all others had failed. Other people's bees were idle, while he was getting about 100 pounds of surplus per colony."

Toronto, Ont.

Some Apiarian Notes and Comments.

Written for the "Kansas Farmer"

BY REV. E. T. ABBOTT.

"Fitness of person" is taking the highest rank in the bee-business in the place of honey-producing hives and fixtures.—*American Bee-Keeper*.

This has always been and always will be true. There has been no greater humbug connected with the bee-business than the idea that the kind of hive or appliance used increased the amount of honey gathered by the bees. This idea was no doubt started by the patent hive people, and it has gotten such a hold on the minds of many that it is very hard to make them believe that it is all a mistake. One hive may be more convenient than another, or may give one the honey in better shape than another, but the hive has nothing to do with the quantity of honey, if the bees are looked after and manipulated properly.

PACKAGES FOR HONEY.

By putting up good honey in handy-sized packages, and then by taking a little trouble to introduce your honey into the families who are able and willing to pay for a good article, you can build up a good home trade. Then by square dealing it is easy to hold it.—*Nebraska Bee-Keeper*.

Now is the time to look after the honey-package. The farmer who turns old starch boxes over his hives for the bees to store surplus honey in will get as much honey as his neighbor, perhaps, but he will "stand no show" with that neighbor when he goes into the market with his honey all broken and running over everything, if his neighbor has taken pains to have his honey stored in handsome pound boxes, and has cleaned and sorted them carefully before going to market.

SWARMING AND OUT-APIARIES.

Friend Alley says, "Let your bees swarm; they'll do better if you do." Granted; but will he tell us how to run half a dozen out-

apiaries, miles apart, all swarming at the same time, and no competent help? No doubt he'll growl out, as he has done on former occasions, "Drone-traps, drone-traps;" but "honest Injun," friend A., will it work on a large scale? I seriously doubt it.—*Progressive Bee-Keeper*.

I do not know what answer friend Alley would make, but I would say, do not run them. One apiary is all the average bee-keeper needs. If the specialist who thinks himself an expert, and very scientific, wishes to run more, let him devise ways and means suited to his own ideas and methods. There are very few who will want to follow out his plans.

RIPENING HONEY ARTIFICIALLY.

I wish to go on record that to advance the idea of ripening honey artificially, as it has been advanced, is injurious to the bee-keeping industry, besides it is impractical.—*Canadian Bee Journal*.

This is my idea, exactly. The less artificial work there is about any kind of honey the better the honey; natural methods are the best methods in the apiary. The longer any kind of honey is left in the hive, the better the flavor and quality. It may not improve the looks of comb honey to leave it on too long, but it surely will greatly improve the taste of it and its keeping qualities. As to extracted honey, it is very hard to secure first-class honey of this kind if it is not left in the hive until it is sealed over and thoroughly cured.

St. Joseph, Mo.

Honey-Plants of Colorado.

Written for the *American Bee Journal*

BY REV. L. J. TEMPLIN.

A short time ago I received a letter from some one in Michigan, asking about the honey-plants of this region. His address having been mislaid, I know of no better way than to write my answer to the AMERICAN BEE JOURNAL, and trust to my correspondent seeing it there.

I am located on the Arkansas river at the point where it debouches from the Rocky Mountains, south of the center of the State, and at an elevation of about 5,300 feet above sea-level. Our earliest pollen is obtained from willow, cottonwood and maple. Fruit bloom is the source of most of our early honey. Of this there are many hundreds of acres within bee-range of my location, both orchard and small fruits.

Immediately following fruit-bloom comes alfalfa or lucerne, of which there is a vast amount all up and down this valley as far east as into Kansas. This is a magnificent honey-plant, blooming from the first of June until October, at intervals, as it is cut for hay.

In July the bee-weed (*cleome integrifolia*) comes into bloom, and continues until about the first of October. Dandelion, white clover, sweet clover and golden-rod are gradually coming in and increasing each year, but as yet do not count for much as a honey-source.

Then there is a weed that grows on the parks around here, that the bees work on late in the fall. It grows in stools or bunches, to 15 or 18 inches in height, and has a yellow, composite flower.

Of the quality of the honey from fruit-bloom I am not able to say, as I never took any surplus from that source. The honey from both alfalfa and cleome is first-class, both in color and flavor.

Canon City, Colo.

Making Comb Foundation.

Written for the American Bee Journal

BY C. W. DAYTON.

Having read so much science lately in regard to the making of foundation, it was becoming somewhat of a dread of that part of our business; however, as it must be done this morning, having secured leave of the kitchen stove, operations were commenced.

The first thing was the removal of the top from a 5-gallon oil-can, with an old chisel. It was rinsed well, about two quarts of water put in, then filled up with cakes of wax, and the lid removed from the stove, and set right over the fire to melt.

Two 9-inch boards were gotten off the oil case and planed down so that the edges were almost sharp while the center remained nearly the original half inch. The edges are usually left square. That makes two ribbons of wax at each dip, and there is waste of time to remove them and throw back into the melting tank. These boards were pine, 21 inches in length. If they had been 3 inches shorter it would have been just as well. They were immediately put to soak.

The dipping tank for 9-inch sheets should be 10x2½ inches, and the depth about 17½ inches. Then a sheet of tin to make it should be 17½x25½ inches

—the ¼ for the lap. Either make a form to wrap it upon the size of the inside of the tank, or mark where the corners are to be, and bend and shape the corners over the square edge of the work-bench. Solder the seam up the side, fastening at the top and bottom ends first. Then comes the bottom. Cut from the remnants a piece of tin 2½x10¼, and lay on a level place, stand the body of the tank upon it, and solder around the outside.

The same fire which melts the wax heats the soldering iron. While the iron is hot, make a little trough to hold the lubricator beneath the lower roll on each machine. The lower roll should be half buried constantly. This trough is made by first bending a piece of tin into a half round shape, and then soldering a straight piece of tin across the ends. Vandervort mills have this trough, but it is too flaring and too shallow, as also is the Root's. The Root's has another disadvantage in being wide and flat, and long enough to catch the axle grease. Throw all these away, and substitute close-fitting round ones.

As these troughs are continually running over it needs another broad, shallow pan on the floor of the mill frame. This pan catches considerable lubricant which runs back, down the sheet of wax while being rolled.

The first dipped sheets, and the first sheets dipped, I ever saw were of my own work, and I thought the only requirement was to keep the wax in a melted state on the stove; but I have since learned that the wax-tank must be kept in another tank containing water, and that it is by keeping up a steady heat under the water that the proper temperature of the wax is maintained. This water tank is improvised by taking the top off another oil or honey can. The dipping-tank being 10x2½ inches, fits nicely cornerwise of a 5-gallon can which is 9 inches square. Keep the water up to about one inch of the top. Heat this water on the stove to hasten getting started.

The best thing to keep the dipping-tank and water tempered is a one-burner lamp stove, costing \$1.00. Set this lamp inside another 5-gallon can having the top removed. Put a brick under to bring the top of the lamp up close to the tanks. Before putting the lamp in cut a little hole with the chisel on one side so that the wick can be turned without disturbing the tanks. This hole is good for draft as well. In setting the tank over it, set it a little cornerwise, and it will find a sure and firm foundation.

The little holes left at each corner are necessary draft.

As 5-gallon cans are 14 inches in depth, it brings the wax in the dipping tank about 3 inches higher than the water, and affords a wider range for the maintenance of the temperature of the wax. As fast as the wax is dipped out, it is replenished from the melting tank on the stove.

Sixteen sheets of brood heft, or 32 for surplus, uses 2 quarts of wax out of the tank. Though there are only 15 inches of wax in the tank at starting the first sheets may be $17\frac{1}{2}$ inches long, and the last 13 to 14. Fourteen-inch sheets are about the most convenient length to dip, to run through the rolls, and with which one person can do more than half as much as two. Six-feet-to-the-pound foundation rolls them out 20 inches in length, and 10-feet-to-the-pound 30 inches, but it is safer to dip sheets thus than roll thin from thick ones. In dipping the same end both times, if we dip twice, one end of the sheet of foundation is a trifle thicker than the other, but they seldom vary more than $1\frac{1}{2}$ feet to the pound, and $9\frac{1}{2}$ feet to the pound is as good for sections as 11, while the average is something over 10.

To get foundation very thin, say 15 feet to the pound, have the dipping-boards quite warm, and wipe off the dripping water before immersion. To keep the boards warm they should remain in the cooling tank as short time as possible. Often 8 to 10 sheets may be dipped without thrusting the boards into water after the former sheet is removed, but wiping over the dry parts with a wet cloth or sponge.

Before the sheet gets cold enough to twist up and drop from the board, catch hold of the upper end with the thumb-nail, and peel it off and lay down on the pile. While warm it is safer to handle. Ten-feet-to-the-pound foundation can be rolled on some mills from thick sheets, but thinner than that has not sufficient strength to release from the rolls. Flour paste is the best, as well as the most convenient, to procure. One heaping table-spoonful brought to a boil in a quart of water is about right. Use one quart to 150 feet of foundation. After it gets out of the trough pour it back again in using the Vandervort mills. With Root mills use new. Make fresh every half day. Keep unmelted wax in the melting tank, and keep the tank full. It is easier to control the temperature of a large quantity than of a small amount. The temperature of the room

is best at about 90°. That is what keeps the rolls at the right temperature.

A cooling-tank may be anything which is large enough, but as convenient as any I have found, is a tin coffee can which usually costs about 25 cents at the grocery. They are about 13 inches square, and 20 inches deep. Cut the top out, the same as of the 5 gallon cans. Then they are a nice size to retail extracted honey out of at home, holding about 200 pounds. They answer very nicely for uncapping cans also, where the frames are not over 14 inches long. On account of a scarcity of 5 gallon cans, I bought 20 of these at one store last season.

By the above method, including the preparation of the utensils as described, this first day resulted in 250 feet of foundation; and still it is a mooted question if it pays to manufacture the foundation for 100 colonies. I say it pays better than if going eight miles to the express office were the only expense on the purchased article.

In order to run $9\frac{1}{2}$ inch sheets of wax through 6-inch surplus rolls, they are cut in two lengthwise, making them $4\frac{1}{2}$ wide. Wide sheets can be easily dipped thin, but not easily rolled while wide. I sit down, using the right hand on the crank while the left starts and guides the sheet. If the lower roll is well lubricated, the foundation will adhere to the upper roll, and as it comes over the top the left hand changes from the sheet of wax to the sheet of foundation. If a sheet sticks to the roll, I scrape or pull off so much as I can easily, then loosen up the set screws and run through a few thick sheets. Then reset the rolls. This takes but a few minutes, where to go at it tooth-pick fashion may take hours. They are liable to stick to the rolls when too cold or too warm. Too cold causes breakage, and too warm they pull apart. At the right temperature the sheets are strong and pliable. To keep them right put them in water kept at the right temperature by the lamp stove underneath. This water tank is the same one used with the dipping tank, only the water is not so hot, only warm.

I set the foundation mill on one honey or oil case while I use another case for a seat. It is a good thing to have rolls one or two inches wider than the sheets of wax, on account of less liability to run crooked at the ends.

In dipping twice, one dip should be deeper than the other, to make the end of the sheet very thin and easy to remove from the rolls, and also increase

the liability to cling to the upper roll. As soon as the left hand has fairly started the thin end between the rolls, and it is proceeding through and coming up over the top, grasp the far end of the sheet and pull and stretch the same into line with the rolls, and if the rolls are evenly adjusted, the unrolled part of the sheet will take care of itself.

Florence, Calif.

Selling Honey at Retail.

Written for the American Bee Journal

BY W. O. TITUS.

Under the caption of "To Get Ahead of the Swindlers," on page 635, I notice the writer refers to me in rather an unenviable way. My first thought was to treat it with silent contempt, but upon re-reading it, I find I cannot do it, for it "stings," and I was mad; it made my blood boil to be classed among swindlers and "venders of the vile stuff."

And I want to tell Mr. S. that I have never sold or offered for sale one pound of anything for honey that was not the product of the bees, and the best evidence I have of that fact is, that I am selling to the same customers over and over, year after year, and they seem to be satisfied with my goods and my prices.

If I obtain better prices for my goods than Mr. S. can for his, it may be that I work harder and travel more miles to do it. One thing I am sure of, and that is, that the best and purest honey does not draw very many customers either to your apiary or your home for it. No one in the trade would co-operate more heartily than myself, to suppress, in a legitimate way, the sale of adulterated honey; but excuse me from adopting Mr. S.'s "method." It may be a great "invention"—it certainly is offered cheap—but why does he not get up and put it into practice himself, instead of asking his fellow bee-keepers to do so?

For one-half day I would like to see him, taking his extractor, his filled combs, and all the necessary outfit to extract with, along the streets here, and up six or eight flights of stairs into some of the tenement houses. After the combs have gone through the children's hands he would never need to return them to the bee-keeper, for the bees would never recognize them again.

Then, of course, he would go into the banker's office, the shoe, tailor and blacksmith shops, dry goods, grocery

and millinery stores, etc., to do his extracting, because he must do it right before them to prove that it is pure honey, and then some of them might have the audacity to ask him what he fed his bees on, to fill such nice combs! Well, if he can go into those places to do his work, and emerge and say "there are no flies on him," then all of his "thinking" will not have been wasted.

Now, Mr. S., how do you know that glucose is being prepared as honey and sold as such by the carload? Have you seen it, or is it merely hearsay? For myself, I don't believe it. While there may be a few engaged in adulterating honey, I doubt whether there are many, or whether they are selling any great quantity. I have an excellent chance to see, and during the past year I do not believe I have seen 20 pounds, either in the hands of dealers or consumers. Don't let's cry before we are hurt. Don't let's try to magnify a mole-hill into a mountain. No adulterator will last very long, while we can stick to our business for a lifetime, if we choose to, and will act honestly and honorably with our fellow beings.

Cincinnati, Ohio.

[We are glad to give the foregoing from Bro. Titus, and to assure him, and also Mr. Melbee, that there wasn't the slightest thought of including them among the "venders of the vile stuff." Upon referring to the letter by Mr. Sanford, on page 635, we now see how such an idea might be gathered, but it was entirely unintentional, and we hope that no harm will result to the two honey-sellers mentioned. We trust they will accept this explanation of that point, for we certainly have no reason for thinking, and do not think, that either of the bee-keepers named would stoop to the low level of adulterators of honey. We regret very much that Mr. Titus took it in the way he did, for it was not at all so intended.—EDITOR.]

The California Fruit Exchange.

The California Fruit Exchange is the most extended and important co-operative enterprise ever undertaken. Its success involves the uniting of the entire fruit-growing interest of California for common action for common purposes,

leaving local affairs to be administered by local associations. It is not the creation of individuals, but of the fruit-growers of the State in convention assembled. It belongs to them, and will be administered by their representatives.

It expects success by constantly informing each grower of what it does, what it wishes to do, and why.

It attacks no class, and will injure no legitimate interest. It promotes local co-operation, and yet would not dispense with the services of any living person now engaged in finding customers for California products. On the contrary, we wish to find work for twice as many, and to have them all make money.

We do, however, seek, and intend to secure many reforms in our business methods.

We propose that each grower shall know all that any buyer knows as to the conditions and fluctuations of crop prospects and markets. Then we who sell will be on equal terms with those who buy.

So long as our fruits are consigned East, under advances, for sale, there will be absolutely no reliable cash market, nor any reasonable hope of regular living profits to growers. We trust soon to have the influence to entirely break up that practice as to all dried fruits, and we hope, as to most fresh fruits. We care not how many commission men are employed so long as goods remain in control of the grower until sold, and he has opportunity in advance to accept or reject the scale.

To escape the necessity of consignment, the grower must be made financially independent of his selling agent. This is entirely possible, and will, we think, be accomplished under the leadership of the Exchange.

The net proceeds of goods sold on commission are *trust funds*. They belong to the grower whose commission agent has no right to their use, even for a day. The grower is entitled to the date of sale and name of purchaser. We shall possibly before long ask the growers to sustain us in enforcing the general use of a form of contract with commission houses which will secure this to all.

The Exchange believes that the relations of the growers to those whom they employ to find customers for their products should be of the most cordial nature. But it must be recognized that it is the relation of the employer and employed.

There will always be growers who prefer to sell at their doors, expecting the purchaser to make his profit. The more

buyers of that kind we can have the better.

There will always be growers who prefer to try the ultimate market through commission agents. And the more active houses thus engaged in finding customers for us the better.

But the buyer and the commission agent must be different persons. Few men are, and none are believed to be, honest enough to sell other peoples' goods fairly in competition with their own. When a pinch comes, and sales are slow, they must push their own goods, upon which ordinarily they owe money, first.

The Exchange will seek to effect a complete separation between the buying class and the commission class. The most obvious way of reaching this end is by the form of contract by which those undertaking to sell goods upon commission shall bind themselves not to buy on their own account.

On the other hand growers are bound to deal squarely by their salesmen. If they place their goods for sale with a commission house, they should be held to stay by them for the agreed time. If a broker spends time in finding customers for a grower, he is entitled to an agreed time to make the sale, and to compensation for his effort if the grower meanwhile sells otherwise. He is entitled to fair and honest samples, and to compensation for sales followed by rejections for manifest inferiority of goods to sample. The Exchange favors fair, upright, business-like dealing everywhere.

In the fresh fruit trade there is the yearly experience of glutted markets caused by shipments without concert of twice or thrice the known capacity of given markets, with possibly other markets comparatively bare. There is the universal belief that competing houses sometimes deliberately slaughter the fruit entrusted to them in efforts to drive competitors from a special market. We do not know this to be true, but all growers believe it.

We desire growers to insist that their commission agents shall transact their business wholly in the shippers' interest, as they are paid to do; that the shippers shall agree among themselves for a daily division of markets, or, failing that, that an authorized agent of all the growers shall divide them fairly, and that shippers have daily information of the destination of all fresh fruit leaving the State.

The Exchange speaks in these matters as the authorized representative of the

fruit-growers of the State, which a State convention deliberately declared us to be. We should be false to our trust if we assume less, or spoke otherwise. Those who have created the Exchange are bound to sustain us in all wise measures, and to excuse and rectify our errors. For this year we stand as the representatives and servants of the fruit-growers of the State, promising faithful service, and relying on solid support.

The above is by no means a complete outline of the work committed to the Exchange; but it includes all matters wherein our duties touch the relations of the grower to the trade. It seems best to state them squarely at the beginning, that there may be no misapprehension on that point. What we have above set forth is our conception of our proper relations with those who sell goods for us, and of the reforms necessary to perfect those relations. We seek nothing which all tradesmen will not recognize as proper and necessary. We ask the hearty co-operation of the trade in our work. We hope they will effectively organize themselves, and act with us through their authorized representatives in putting the fruit trade on a sound basis. We do not wish for them in our organization, and we have no desire to enter theirs; but we wish to deal with them as man to man in the friendly spirit which those must have who expect to work together effectively.—*California Fruit Bulletin.*

Summer Management of Bees.

Written for the "Farm, Stock and Home"

BY B. TAYLOR.

What system of summer management is best for securing the object of bee-keeping—surplus honey? There are nearly as many methods as bee-keepers, and each claims his way the best, and all have some good features, no doubt, but the most of them are in many things badly behind the times. We will now give the system that has, after many years of trial, proved most satisfactory with us, all things considered.

We will assume that the bees have been given good spring care, so they will be ready to cast big swarms. Near the first opening of the white clover harvest give each strong colony one super of sections filled with drawn combs, if possible, or full sheets of comb foundation in the absence of drawn combs. Hives for the new swarms

should be in readiness, each with frames filled with full sheets of brood-foundation.

Thus equipped, one will be ready for the first swarm. When it comes, remove the hive from which it issued to a new stand, and set one of the empty prepared hives in its place. Capture the new swarm in any way most convenient, spread a sheet in front of the new hive, shake the bees in front of it, and with a soft, slender brush gently drive them in. Now remove the super of sections from the old to the new hive, and the work is done. The super of sections will doubtless be at least partly filled with honey, and the new swarm, having no combs in the brood-chamber to store honey in, the very first will be stored in the sections, and work thus begun will be continued if the flowers yield nectar. Other supers of sections should be in readiness to give, by raising up the partly filled one, as soon as needed to give the swarm sufficient room at all times until the end of the white honey harvest.

In six or seven days go to the parent hive, spread a hiving-sheet in front of it the same as if hiving a new swarm, blow a little smoke into the entrance to drive away the guards, raise up the hive, cover gently, blow in a little smoke to subdue the bees. Now begin at one side and take out a comb, shake all the bees from it in front of the hive. Search it for queen-cells, and remove all you find. Set the combs into an empty hive, to make room for handling the remaining combs; take them out one by one, brush the bees in front of the hive, as before; search for queen-cells, and if you find a large, fine one situated so you will not be in danger of injuring it in replacing the combs, leave it and carefully destroy all others. Now return the comb to the hive, making a notch in the frame over the cell, so you can find it again easily if you should wish to. Take out the remaining combs, brush the bees from them as before, destroy all remaining cells, return the first comb to its place, and the job is done.

This swarm, having but one queen-cell, will not swarm again. But after three or four days you should open the hive, lift the frame in which is the cell, to see if it has hatched. If it has, look again in ten days to see if the queen has begun to fill the cells with eggs. Young queens are often lost in mating or otherwise, and in such case a new cell or hatched queen must be given them. In our practice these colonies with their young queens are allowed to become heavy with winter stores, so they will

breed late, and go into winter quarters with a big colony of young bees. Such colonies will need no feeding, and quite sure to winter safely if properly cared for, will come out in the spring strong in bees, and be ready to quickly build up strong in time for the next honey-flow.

The new colony may be run for all the surplus that can be got from it, and in the fall two or more of them be united to make a strong colony, or, what is probably better, their queen be destroyed, and the bees given to the parent hive. When this plan is adopted, starters—three cells wide—in the brood-frames for the new swarms will not only be cheaper, but will give more section honey than where full sheets of foundation is used; the reason being that the full sheets will be drawn into combs quickly, and make room in the brood-nest for storing honey. While with starters, combs are completed slowly and filled with brood as fast as built, and the honey has by necessity to be stored in the sections. But if it is desired to save the new swarms for future use, full foundation is best, as the bees are likely to make too much drone-comb brood hived on starters.

Where starters are used, the combs may be melted into wax, and new starters used each year. Drone-combs should never be used to hive new swarms upon, where surplus is the main purpose, because if there is ready store-room for honey in the brood-nest, it will be used and filled before the bees will work in the sections.

We have described the plan we have mainly followed for more than 25 years, and have realized better results from it than any method we ever tried, when present and future good was considered. We have tried many other methods for experimental purposes, but shall strictly follow the one herewith described in the future when working for either comb or extracted honey.

When the bee-keeper has as many colonies as he desires, increase can be prevented and the energies of the bees be turned into surplus honey, and we have found that a few powerful colonies worked for either comb or extracted honey, will furnish more means to buy food and clothing than many colonies and little surplus.

Forestville, Minn.

One-Cent Postage Stamps we prefer whenever it is necessary to send stamps for fractions of a dollar. By remembering this, you will greatly oblige us.



Do not write anything for publication on the same sheet of paper with business matters, unless it can be torn apart without interfering with either part of the letter.

Fine Prospects for Fall Crop.

I took 1,100 pounds of extracted honey in May, with more to follow soon. There is more horsemint, and it is better than since 1888. The prospects are fine for a fall crop. We have had splendid rains.

MRS. S. E. SHERMAN.

Salado, Tex., June 4.

Too Cool and Dry.

Thousands of laborers out of employment—the honey-bees. For the past three weeks it has been so cool and dry here that the bees have not gathered one ounce of honey. White clover will be a total failure. Basswood will soon be in bloom, which will be a fair yield, providing the atmosphere is not too cool and dry. Today the bees are not flying.

D. O'CONNELL.

Cooperstown, Ills., June 5.

Rain Needed Very Much.

It looks now as though our honey crop was going to be as Mr. Wilson predicted, not because of dry weather last fall, but because of no rain this spring. Clover is all right, but it is so dry I am afraid it won't bloom much. However, we may get some basswood honey, as there is lots of basswood within one mile of me.

If I am allowed my little say about that much handled subject, "adulteration," I would say this was one of the things to which the saying, "Be sure you're right, then go ahead," applies pretty well, it seems to me.

I hope the friends will stick by the "Old Reliable" through "hard times" and "good times."

E. S. MILES.

Denison, Iowa, May 31.

Ready for the Honey-Flow.

We had a good rain on May 29th and 30th, which was very much needed. Bees are beginning to swarm. They are gathering honey now from hoarhound and persimmon. The rock moss is almost gone, and the bees are working on the red clover this year—something they hardly ever do. There will be a continuous flow for a month,

though it may be light. We are all looking and wishing for a heavy flow of nectar this year, as we have had but little honey for two years.

Bees are in extra good condition, and if the honey-flow comes they will take care of it. I have colonies in ten-frame hives, three stories high, that are full of bees from top to bottom, that are making no preparation to swarm. My! but won't they bring in the honey? J. C. BALCH.

Bronson, Kans., June 4.

Bad Weather for Bees.

The weather is very bad for bees at present. It has been cold and rainy for nearly a month.

CLARK A. MONTAGUE.

Hayes, Md., June 6.

Pastures Drying Up.

My bees wintered well the past winter on the summer stands. I lost one queen out of 48. We are having a very severe drouth here, and cool weather. The pastures are being eaten out and drying up. White clover will not amount to anything unless it rains soon. Basswood will bloom about the first of July, and we may get some surplus honey from it, but we never have a very heavy flow from basswood.

Perry, Iowa, June 2. JESSE WHITE.

Michigan Apiarian Statistics, Etc.

I have been a constant reader of the "Old Reliable" since 1889, and there is so much of interest in it that I could not do without it; and thinking it might be of interest, I will give some statistics of apiculture in Michigan for 1892-93, excepting 44 counties in the State from which no returns have been received. Fourteen counties of these are in the upper peninsula:

No. of apiaries.....	5,719
No. of colonies of bees in fall of 1892..	66,415
No. of colonies at time of taking assessment, in 1893.....	42,283
No. of colonies wintered in cellars....	10,603
No. of colonies wintered in chaff hives	23,555
No. of colonies in bee-houses.....	170
No. of colonies covered with sawdust	69
No. of colonies otherwise protected..	2,091
No. of colonies with no protection....	24,295
No. of colonies protection not reported.....	5,632
No. colonies producing comb honey..	55,360
No. of pounds of comb honey.....	851,875
No. of colonies producing extracted honey.....	16,293
No. of pounds of extracted honey....	187,278
No. of colonies producing wax.....	16,785
No. of pounds of wax.....	9,211

Bees in this, the 43rd latitude, are doing well. My bees are doing nicely. I had the first swarm on June 1st, and the second swarm on June 2nd. I have one colony whose queen's name is "Jennie." I named her after the person I got her from—Jennie

Atchley—on April 23, 1893. I tell you there is no discount on her. She is a perfect "lady" bee.

Now did you ever hear of any one commencing to read a book at the back? When I get the "Old Reliable" I commence to read the other way, from back to front. But how about adulteration? I heard the discussion at Lansing in 1893, and I am surprised to hear the tone of some, being a little more modified now than then. I have said enough on that point.

Long live the AMERICAN BEE JOURNAL!

Ionia, Mich., June 4. JACOB MOORE.

Hard Time for Bees.

I think the "Old Reliable" is very reliable authority, and no matter how hurried I am when it arrives, I always find time to glance through it before I open my other papers.

This is a very hard time on bees here. We have been having cold, rainy weather for the last 17 days, not having missed raining one day during that time. It has required much feeding to keep our bees in condition.

O. S. BROWN, M. D.

Londonderry, O., June 2.

Rainy—Bees Almost Starving.

I have been wondering what kind of weather bee-keepers are having in other parts of the United States. It has rained here for 16 consecutive days, raining the whole 24 hours several of these days, and vegetation is standing in water, with bees just on the verge of starvation. I have been feeding some of my colonies, rain falling in torrents while I did so. Farmers are discouraged, and bee-keepers looking blue. I hope the kind Father above may send us clearer skies soon.

G. M. DOOLITTLE.

Borodino, N. Y., June 1.

Preparing Bees for Winter.

About Nov. 1, 1893, I made a box with about 4 inches of excelsior packing all around it, with no top or bottom. The inside of the box was 3 inches larger than the hive, all ways, and 8 inches higher. I put this box over the hive (with a bridge over the entrance), and packed the space between the hive and the outer packing with fine oat-chaff. I then put a Hill's device on the frames, and a 5-inch super on the hive, and then a burlap chaff cushion in the super on the Hill's device, and put the super cover on, and then filled the box up with chaff around and on top of the super, and then put a roof on the box, of roofing iron nailed on boards. On March 30th, my bees seemed to be in fine condition, and were carrying in pollen and propolis at a lively rate (it being a very warm day), while my neighbor, who had nothing but the summer hive, lost 2 out of 3 colonies, and another lost all he had, besides others I heard of in the country.

T. HOLLINGWORTH.

De Witt, Nebr.